[redacted]

NATIONAL SCIENCE FOUNDATION
WASHINGTON, D.C. 20550

STATINTL

info
Kind
OGC
OSI
OBGI
LES
SB
OSS
CRS

August 19, 1974

Deputy Minister E. R. Shenderey
Ministry of Microbiological Industry
U.S.S.R. Council of Ministers
Lesteva 18
Moscow, U.S.S.R.

Dear Dr. Shenderey:

It is a pleasure to speak with you again if only through the medium of a letter. I am enclosing copies of the photographs I took of you and your Working Group, and would appreciate your giving them to the men concerned. I regret that Dr. Berezin was not available at the time I took the photographs.

Last week, just before I left town, I was informed that Dr. Humphrey had received a telegram from Dr. Berezin informing him that a conference was to be held on "Immobilized Enzymes" and asking him to notify both Dr. Tsao and me, and stating that he was sending information to the American participants. The date of the seminar was given as October 21-26, 1974, to be held at Moscow University.

The impression given by the telegram in referring to a Soviet-American seminar, and in Dr. Berezin's letter sent to various Americans, was that this seminar (October 21-25) was part of our Project IV on enzymes. In view of the procedures being followed, however, I assume that although the seminar may be related in subject matter to our Working Group activity, it is not actually part of it. If it were under our official cooperative program, mutual agreement on both the proposed dates and the agenda would have been required in advance; under this official procedure, invitations would not have been issued to individuals on the U.S. side since the selection of U.S. participants is a matter solely for determination by the U.S. side, although your suggestions on this matter would have been appreciated and given appropriate consideration.

Finally, October 21-25 is an unfortunate choice of dates. The Soviet side has recently accepted the dates of October 24-25 for the third meeting of the US/USSR Joint Commission on Scientific and Technical Cooperation to be held in Washington, D. C.

Microbiology

Moreover, if we were considering an official meeting, both sides would have had to determine the applicability of the principle of receiving side pays.

If Dr. Berezin merely wishes to invite various Americans to attend an academic meeting under private auspices, that is, one not under the Science and Technology Agreement, then of course it will be up to the invitees to determine whether or not they can attend. It should be understood, however, that should they accept the invitation, their attendance would not be as representatives of the Working Group, nor would the meeting be considered as part of the Working Group's activities.

It is understood, of course, that in a number of instances, there may be meetings that are established for purposes independent of the Joint Working Group. Such meetings could be set up separately as was the Spore Conference to be held in Michigan, and to which we invited some of your people to attend (but were told that it was not possible for them to do so), or some meetings that are held as part of larger scientific society meetings. In such cases, we recognize that neither the dates nor the agenda of the meetings can be changed. Even though these meetings are not set up as official working group meetings, they can serve a similar purpose if the subject matter is such that it fits into our program. In such instances, official representatives of both sides of the Working Group could attend the meeting and then meet afterwards, if it seems appropriate, to discuss their reactions and to discuss the implications of what they have learned as it might affect the detailed aspects of the research program agreed upon by the Working Group. Of course, such attendance would have been the subject of a prior detailed discussion and mutual agreement by both sides of the Working Group.

I regret that all these details must be brought up, but I hope you do recognize their importance to our conducting an orderly series of seminars and meetings directly related to our agreed-upon research projects. I will be meeting with the various members of the U.S. Working Group to determine what our (U.S.) specific plans will be for seminars or conferences in light of the agreement we reached in June. Later, perhaps, the U.S. and the U.S.S.R. representatives could discuss the establishment of such seminars or conferences, Project by Project, so that various administrative difficulties could be avoided and we could spend more of our time being concerned with scientific matters.

Please extend to Dr. Berezin my sincere good wishes and let him know that I am sure that his seminar, whenever it is held, will be a most outstanding one. This comment is not only made by me personally, but comes from a number of our people who are familiar with Dr. Berezin's outstanding work.

Sincerely yours,

J.M. Leise
Chairman
U.S. Side of the Joint US/USSR
Working Group on the Production
of Substances by Microbiological
Means

Enclosure

American Chemical Society

PUBLIC AFFAIRS AND
COMMUNICATION DIVISION

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4600

STATINTL

August 15, 1974

Professor G. K. Boreskov
Director
Institute of Catalysis
Novosibirsk 630090
U.S.S.R.

Dear Professor Boreskov:

As you will see by the enclosed copy of my letter to Dr. Korneyev, I should like to visit the Soviet Union in the interest of working toward optimum effectiveness of our administrative procedures in the Chemical Catalysis Program. As it is my understanding that my responsibilities in this program relate most directly to those of Dr. Korneyev, it is certain that I shall have active contact with you and your colleagues in Novosibirsk. I believe that some personal acquaintance and discussion would be of value in the interest of the effectiveness of my service to the program. Therefore, I am suggesting that if you find it convenient I should like to visit you some time in the period September 28 to October 1.

I send my respects and cordial good wishes and hope that I may hear favorably from you in this matter.

Sincerely yours,

Richard L. Kenyon

Richard L. Kenyon
Program Administrator

RLK:bm
CC: Dr. S. G. Korneyev
Dr. J. Tech
BCC: Dr. R. Wald

to you that I visit Moscow and Novosobirsk during the period September 25 to October 2, I should be pleased to make the trip. It would be done on a sending-side pays basis.

I send best wishes for the success of our cooperation and look forward to hearing from you that we may meet soon.

Sincerely yours,

Richard L. Kenyon
Program Administrator

RLK:bm
CC: Professor G. K. Boreskov
Professor J. D. Baldeschwieler
Dr. J. Tech
BCC: Dr. R. Wald

American Chemical Society

PUBLIC AFFAIRS AND
COMMUNICATION DIVISION

1155 SIXTEENTH STREET, N.W.
WASHINGTON, D.C. 20036
Phone (202) 872-4600

August 16, 1974

Dr. Stepan G. Korneyev
Chief, Foreign Relations Department
Presidium, U.S.S.R. Academy of Sciences
14 Leninskiy Prospect
Moscow V-71, U.S.S.R.

Dear Dr. Korneyev:

I have learned from the reports of the recent conference of principal investigators of the Chemical Catalysis Program of the U.S.-U.S.S.R. Agreement on Cooperation in Science and Technology of further establishment of administrative procedures. As we are now moving toward fuller development of the program, I believe some direct contact and discussion among the program administrators would be useful. It would aid understanding and cooperation in planning and in bringing to fruition the plans for the next step in implementation of this cooperative work.

I should like to visit you at our earliest mutual convenience to discuss with you and your colleagues our procedures and plans. My responsibilities include those of general administration of the catalysis program. This is executed in consultation with Dr. Baldeschwieler, as working group chairman and the project coordinators with the financial support of the National Science Foundation and in coordination with the U.S. Secretariat.

I should like to visit you in Moscow, arriving on September 25 for two or three days, during which time we could hold informal discussions. After that I would like to proceed to Novosobirsk for two days to discuss plans with Professor Boreskov and his colleagues in order to gain an understanding of the needs as they view them.

If you would be so kind as to let me know through Dr. Jack Tech of the U.S. Embassy in Moscow that it would be acceptable

Record of Third Meeting
of the US/USSR Joint Working Group
for Scientific and Technical Cooperation on
The Production of Substances by Microbiological Means

Washington, D.C., June 10-12, 1974

In accordance with the agreement between the government of the U.S.S.R. and the government of the U.S.A. on cooperation in the Field of Science and Technology and the recommendations of the second meeting of the Joint U.S.-Soviet Commission, the Third U.S./U.S.S.R. Joint Working Group for Scientific and Technical Cooperation on the Production of Substances by Microbiological Means has met to examine and to agree on specific questions of bilateral cooperation in the above mentioned field.

A list of members of the two delegations who participated in the meeting is attached (Appendix 1). The agenda adopted by the Joint Working Group is also attached (Appendix 2). The Soviet and the U.S. sides have examined the proposed plans for cooperation and found them to be basically in agreement.

The plan contains agreed amendments introduced by both sides. The Joint U.S.-Soviet Working Group has approved the final version of the agreed plans for the work programs and recommends their practical implementation (Appendix 3).

The Joint Working Group has agreed with regard to the exchange of information on the work being done, on the exchange of junior and senior scientists for the joint work, on the exchange of information, lectures, and also on joint conferences and on the exchange of periodic reports on scientific work (Appendix 4).

The Joint Working Group has further agreed that joint meetings of project coordinators be held to facilitate research work, to convene conferences, and to exchange information (Appendix 5).

The Parties returned to the discussion of the question of possible expansion of the fields of cooperation, in particular in the following problems:

- decomposition of synthetics, pesticides, and chemical compounds by microorganisms. Prevention of spoilage by microorganisms;
- research in the field of production and testing of micro-organisms for bacterial fertilizers;
- research on the use of microorganisms for the extraction of non-ferrous metals and other problems of geological microbiology.

The parties agree that they will conduct a study including mutual visits and exchange of information. As soon as possible, but no later than the end of 1975, both sides will submit their proposals.

The Joint Working Group has agreed that the exchange of specialists and mutual visits by project coordinators should be based on equality of numbers and duration of visits in the countries of the participants.

Both sides of the Working Group favor the adoption of receiving side pays arrangements for financial support of cooperative activities in accordance with the directives of the Joint U.S.-Soviet Commission.

The Joint Working Group also agreed on the principles for the use of joint results which will correspond to the guiding priciples adopted by the U.S.-Soviet Joint Commission regarding the rights to intellectual property.

The Parties have decided that the research programs and meetings of project coordinators should commence without delay. It was also decided that the meetings of the Joint Working Group will be held in the future during the month of June in each country in turn. At those meetings, in addition to other work-related questions, reports of each project coordinator, the work results, and future plans of the various research projects will be reviewed. These reports, together with the conclusions and recommendations contained in them, will as a rule, be used as a basis for the Annual Report to the Joint Commission. A draft agenda for the Fourth Meeting is enclosed (Appendix 6).

Composition of the Third Meeting of the
Joint US/USSR Working Group on the

U.S. DELEGATION

Dr. Martin Alexander
Department of Agronomy
Cornell University
Ithaca, New York 14850

Dr. William E. Brown
Director, Department of Microbiology
The Squibb Institute of Medical Research

Dr. Henry Bungay
Vice President for Research
and Development
The Worthington Chemical Company
Freehold, New Jersey 07728

Dr. Charles Cooney
Department of Nutrition & Food Science
MIT
Cambridge, Massachusetts 02139

Dr. Edmund Field
Consultant
American Oil Company
5719 South Kenwood Avenue
Chicago, Illinois 60637

Dr. Harlyn O. Halvorson
Professor of Molecular Biology
Brandeis University
Waltham, Massachusetts 02154

Dr. Arthur N. Heimpel
Plant Protection Institute
Department of Agriculture
Bio-Science Bldg., Room 214
Beltsville, Maryland 20704

Dr. Arthur E. Humphrey (Co-chairman)
Dean, College of Engineering
and Applied Science
University of Pennsylvania
107 Towne Bldg.
Philadelphia, Pennsylvania 19174

Dr. Joshua M. Leise (Chairman)
Senior Staff Associate
Deputy Assistant Director for Research
National Science Foundation
Washington, D.C. 20550

Dr. George Tsao
Program Manager, ATA
National Science Foundation
Washington, D.C. 20550

Dr. Daniel I. C. Wang
Department of Nutrition and
Food Science
MIT
Cambridge, Massachusetts 02139

Done in Washington, on this 19th day of June 1974, in the English and Russian languages, both texts being equally authentic.

J. M. Leise
Chairman of the U.S. side of the Joint Working Group

E. Shenderey
Chairman of the Soviet side of the Joint Working Group

MEETING OF THE US/USSR WORKING GROUP
ON THE PRODUCTION OF SUBSTANCES BY MICROBIOLOGICAL MEANS

Monday-Wednesday, June 10-12, 1974

1:30 P.M. Monday - 4:00 P.M. Wednesday

at

U.S. State Department
2201 C. Street, N. W.
Washington, D. C.
Room 1105

AGENDA

1. Discussion of U.S. and USSR research plans as submitted by each side.

2. Proposed changes (additions and deletions).

3. Determination of an agreed-upon version of submitted plans.

4. Exchange of information on:

   a. Reports
   b. Post-Doctoral Exchange
   c. Senior Research Personnel Exchange
   d. Conferences
   e. Joint meeting of scientific coordinators

5. Final Agreement

6. Future meetings

7. Signing of Protocol

U.S.S.R. DELEGATION

Yevgeniy R. Shenderey (Chairman)
Deputy Chief, Main Administration
of Microbiological Industry of the
U.S.S.R. Council of Ministers

Il'ya V. Berezin (Corresponding member of the AS USSR)
Dean of Chemical Faculty of
Moscow State University
Professor, Doctor of Chemistry

Lev A. Mel'nikov (Senior Research Staff Member)
All-Union Research Institute of Protein
Synthesis
Candidate of Medical Sciences

Vladimir I. Seregin
Deputy Chief of Technical Department
Main Administration of Microbiological
Industry of the U.S.S.R. Council of
Ministers

Vitaliy V. Sukhodolets
Deputy Director of All-Union Research
Institute of Genetics
Candidate of Biological Sciences

Shamil' G. Yenikeyev
Chairman of Chemical Cybernetics Department
Kazan Institute for Chemical Technology
Candidate of Technological Sciences

APPENDIX 3

Appendix 3 shows the preliminary estimated number of seminars, working sessions, dates and duration of each, and also the number of trainees on both sides and the duration of their stay and will be confirmed during the implementation of the programs.

WORKING PROGRAM

Project 1: "Development of Technology for Industrial Production and Utilization of Food and Food Proteins by Microbial Means, Including Research Into Different Aspects of Toxicity and Biological Value of Such Products"

for 1974-1977

Coordinators: Dr. Gregorian (USSR)
Dr. Daniel I.C. Wang (USA)

Name of Topic and Divisions	Participants		Duration of Task	Forms of Cooperation	Results of Work
	USSR	USA			
1	2	3	4	5	6
Assortment and selection of microorganisms of active rich protein producers by the amino acid content for food and feed			1974-77		
1.1 Selection of bacterial yeast cultures	Inst. of Biochem. & Physiol. of Microorganisms; Moscow St. Univ.; Inst. of Protein Synthesis	North Regional Res. Labs. MIT U. of Wisc.	1974-77	Exchange of strains	Obtaining highly productive industrial strains
Development of methods for comparative evaluation of strains among them					
2 Study of possible ways for regulating direct biosynthesis of proteins in order to raise the content of essential amino acids (methione, cystine, tryptophan, lysine)	Inst. Biochem. & Phys. of Microorganisms; Inst. of Protein Synthesis	North Region. Res. Labs. MIT	1975-78	Exchange of information	Devel. of methods for selecting strains by raising content of ir replaceable amino acids (1974-75) Develment of methods of direct synthesis (1976-77)

1	2	3	4	5	6
2. Techno-economical comparison of various kinds of raw materials for microbiological synthesis with econ. analysis			1975-76		
2.1 Cultivation of yeast cultures on molasses, ethanol, methanol, hydrocarbon with forecasting of techno-econ. characteristics	Inst. of Protein Synthesis	MIT U. Penn.		Exchange of information	Obtaining technical and economical characteristics of technological processes 1976
2.2 Cultivation of bacteria on methanol, ethanol, gaseous and liquid hydrocarbons of normal paraffin series, agricultural and industrial refuse, with determination of techno-econ. characteristics	Inst. of Biochem. & Phys. of Microorganisms Inst. of Protein Synthesis	U. of Missouri	1974-76	Exchange of information	Obtaining technical and economical characteristics of technological processes (1976)
2.3 Comparative evaluation of basic characteristics and choice of substrates	Inst. of Protein Synthesis	MIT U. of Penn. U. Missouri	1st stage =1974-75 2nd stage =1976	Joint Conference (see addendum 1)	1. Develop. of methods o comparative techno-econ. level-1974 2. Prognostic comparison of techno-econ. analysis for determining raw materials 1st stage-1974-75 (theor 2nd stage-1976 (specific
. Improving methods of separation of protein substances from biomass of a single cell organism					

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
3.1 Devel. of enzymatic & mechanical methods of protein release	Research Inst. of Element-organic Compound Inst. of Protein Synthesis	MIT	1974-77	Exchange of information	Establish. technical & economical feasibility for industrial use
.2 Purification of microbe biomass from nucleic acids by enzymes-by physical-chemical means	Inst. of Protein Synthesis	MIT	1974-76	Exchange of information	Determination & selection of fermentors; devel. & testing of technological process -1975
Devel. of industrial methods for obtaining protein from single-cell microorganisms					Establishmnet of technical & economical feasibilit for industrial use
1 Apparatus for cultivation	Inst. of Biotech. Inst. of Protein Synthesis	MIT	1974-76	Exchange of information	Joint report on construction of industrial fermentors
2 Separation of biomass	(same as above)	MIT	1974-76	Exchange of information	Same as 4.1
3 Purifying and Drying	Inst. of Protein Synthesis Inst. of Biotech.	U. of Minnesota	1974-76	Exchange of information	Same as 4.1
4 Devel. of large-scale apparatus for purifying biomass, production, process & economic analysis	Same as above		1974-76	Exchange of information	Same as 4.1

1	2	3	4	5	6
5. Specialized processing of biomass & separation of foods protein nutrients from it	Research Inst. of Element-organic Compounds Inst. of Protein Synthesis Acad. of Sci.- Nutrition Inst.	MIT U. of Minnesota	1975-77	Exchange of information	Devel. of technology
Biological value and harmlessness of single-cell proteins microorganisms	Inst. of Nutrition Academy of Med. Sciences, USSR	MIT	1974-77	Exchange of information Joint discussion of results of research	Devel. of unified methods for determining biological value and harmlessness

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

Plans for Joint Conference on Sending and Reception of Scientists for Carrying Out Scientific Program for Obtaining Substances from Microorganisms

Number	Activities	Place to be Carried Out	Date and Duration (Days, Months)	Organization Responsible for Carrying out Tasks, No. of Participants		Basis
				USSR	USA	
1	2	3	4	5	6	7
Project No. 1: "Development of Technology for Industrial Production and Utilization of Food and Feed Proteins by Microbial Means, Including Research Into Different Aspects of Toxicity and Biological Value of Such Products" (1975-1977)						
1	Conference, Joint Discussion of Status of Research for Obtaining Protein Isolates and Development of Microorganism Strains. Visit Laboratories and Companies	USA	1st Quarter 1975 (10 days)	USSR Research Institute of Element-organic Compounds, All Union Scientific Research Institute of Protein Synthesis (4 persons)	USA MIT	Working Programs 3

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
2	Joint Research of possible means for directing biosynthesis of proteins with view of increasing content of essential amino acids (methionine, cysteine, tryptophan, lysine) Exchange of Scientists, one man per year per country	USSR USA	1975-1977	USSR Institute of Biochemical Physiology of Microorganisms Academy of Science, Moscow State Univ., Inst. of Protein Synthesis (3 people)	USA NRRL MIT (3 persons)	Working Programs 1 & 2
	Conference "Comparative Evaluation and Selection of Substrates in course of cultivating microorganisms" Visit Institutes of USSR	USSR Moscow	4th Quarter 1975, 10 days	Institute of Protein Synthesis	U. of Pa. MIT U. of Missouri (4 persons)	Same as above

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
4	Joint research for obtaining Technical and Economical Indicators on growth of yeast on molasses, ethanol, methanol and hydrocarbons. Exchange of Scientists, 1 man per year per country	USSR USA	1975-1976	Institute of Protein Synthesis (2 persons)	U. of Pa. MIT 2 persons	Same as above
5	Conference "Medical Biological Research of Single-cell Protein" Visit Laboratories and Companies	USA	1st Quarter 1976 10 days	Foodstuffs Inst. AMN Inst. Prot. Synthesis 4 persons	MIT	Same as above
6	Joint research on the development of methods for separating protein from biomass of single cell microorganisms. Exchange of scientists, 1 person per year per country	USSR USA	1975-1977	Research Institute of Element-Organic Compounds, Institute of Protein Synthesis 3 persons	MIT 3 persons	Project 3. 3.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
7	Conference "Methods of Industrial Production of Proteins of Single-cell Microorganisms" Visit Institutes	USSR	4th Quarter 1974* 10 days	Inst. of Protein Synthesis, All Union Sci. Res. Biotech-nology. 4 persons	U. of Pa. MIT U. of Missouri 4 persons	Project
8	Joint research on the development of industrial method and equipment for obtaining proteins of single cell microorganisms" Exchange of scientists 1 person per year per country	USSR USA	1975-1976	Inst. of Prot. Syn., All union Sci. Res. Biotech. 2 persons	MIT 2 persons	Project 4.1-4.4
9	Conference "Method of Processing biomass and extraction of food protein from it" Visit Labs. and Companies	USA	1st Quarter 1977 10 days	Research Inst. of Element-organic Compounds, IPAMN, 6 persons	MIT U. of Minn.	Project 5

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
10	Joint research on the development of methods of obtaining food proteins from microorganisms biomass" Exchange of Scientists, 1 persons per year per country	USSR USA	1975-1977 up to 6 months	Res. Inst. of Element-Organic Compounds, IPAMN USSR 3 persons	MIT Univ. of Minn. 3persons	Project 5
11	Conference to sum up program results	USSR	Fourth quarter 1977, 10 days	Inst. of Protein Synthesis Inst. Biochem.& Phys. of Microorg. Inst. of Elemen. Organic Compounds Inst. of Nutrition Acad. of Med. Sci, USSR All Union Scient. Res. Inst. Biotech.	MIT, North. Region. Res. Lab. U. of Penn. U. of Miss. U of Minn. 6 men	Project 5

*Note: The date of the conference will be determined.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

WORKING PROGRAM

ENGINEERING RESEARCH AND DEVELOPMENT OF EQUIPMENT FOR THE COMPUTERIZED SIMULATION, DESIGN AND CONTROL OF PROCESSES FOR MICROBIAL TECHNOLOGY

Coordinators: Dr. Arthur Humphrey, Univ. of Penn.-USA
Dr. Charles Cooney, Co-coordinator, MIT
Dr. S. Yenikeyev, Inst. of Chem. Tech., Kazan
Dr. N. Postnikov, Co-coordinator, Inst. Bio. Engr., Moscow

No	Name of topic and divisions	Participants		Duration of task	Forms of Cooperation	Expected Results
		USSR	USA			
1	2	3	4	5	6	7
I.	Development of methods and new sensors for measuring the significant variables in microbial processes and assembling equipment for expermental investigations					
I.1	Joint working conference for evolving recommentations on research directions in area of sensor development	Kazan Inst. of Chemical Tech. (KICT) Inst. of Bioeng.	U. of Penn.	one week 1st or 2nd Quarter	Conference at U. of Penn. 5 participants ea/ from USSR & USA	Devel. of general report with recommendations for research directions in areas of processing new sensors.
1.2	Development of Instrumentation relative to measurement of biomass (including computer interface and software)	KICT Inst. of Bioeng.	U. of Penn.	2 yrs. 1975-77	exchange of scientific reports; exchange of one collaborator from each country (12 months ea.)	Development of technical documentation and equipment

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
1.3	Development of instrumentation relative to measurement of microbial culture characteristics (including interface & software)	KICT Inst. of Bioeng.	U. of Penn.	3 years 1975-1978	same as 1.2	same as 1.2
1.4	Development of instrumentation relative to measurement of environmental characteristics (including interface & software)	KICT Inst. of Bioeng.	U. of Penn.	same as 1.3	same as 1.2	same as 1.2
2.	Investigation of mass, momentum and heat transfer in heterogenous gas-liquid-liquid type of cultural condition, as well as kinetics and biochemical mechanisms of hydrocarbon uptake by microorganisms.					
2.1	Conference on mechanism of hydrocarbon uptake by microorganism and hydrodynamic theory of culture media	KICT Inst. of Protein synthesis Inst. of Bioeng.	Kansas State Univ. (KSU)	1 week--1975 2nd & 3rd Quarter	Conference at Inst. of Protein Synthesis Moscow; 5 participants from each country	Devel. of general report on status of research in this area and recommendations on directions of future research

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
2.2	Devel. of experimental apparatus & research on kinetic and biochem. mechanisms of hydrocarbon uptake by microorganisms	Inst. of Protein Synthesis KICT	U. of Penn. M.I.T KSU	2 years 1975-77	Exchange of scientific reports: exchange of one collaborator from each country (12 man-months equivalent)	Obtaining experimental information for development of mathematical models for simulation of biochemical kinetics of hydrocarbon uptake
2.3	Devel. of hydrodynamic theory of heterogenous microbial systems of the gas-liquid-liquid type	KICT	KSU	2 years 1975-77	exchange of sci. reports: exchange of 1 scientific collaborator from each country (12 man-months equivalent)	Devel. of mathematical models for simulation of the heterogenous cultural environment
2.4	Devel. of experimental apparatus and obtaining data enabling formulation of hydrodynamic model for simulation of heterogenous fermentation systems of the gas-liquid-liquid type	KICT Inst. of Biotech. Inst. of Protein Synthesis	KSU U. of Penn. MIT	2 years 1975-77	exchange of sci. reports: exchange of one scientific collaborator from each country (12 man-months equivalent)	Experimental data necessary for mathematical simulation of cultural environment

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
3	Research on population dynamics of microorganisms					
3.1	Conference to specify directions of theoretical and experimental work	KICT Inst. of Bioeng.	KSU MIT U. of Penn.	1 week 1975 3rd quarter	Conference at KSU 5 participants ea. from USSR and USA	Report summarizing problems
3.2	Devel. of structural theory and population dynamics in continuous fermentation	KICT	KSU MIT	2 years 1975-77	exchange of sci. reports; exchange of 1 scientific collaborator from each country (12 man-months)	Devel. of math. models for simulation of population dynamics of microorganisms
3.3	Assembly of experimental apparatus & collection of data to formulate models of microbial population dynamics	KICT Inst. of Bioeng. Inst. of Protein Synthesis	U. of Penn KSU	2 years 1975-77	Exchange of sci. reports: exchange of 1 scientific collaborator from each country (12 man-month equivalent)	Experimental data for math. simulation of population dynamics of microorganisms

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
4	Development of Engineering Techniques for Optimal Design of Industrial Scale Fermentors and Automatic Control of Industrial Fermentation Processes.					
4.1	Conference on summarized results of topics 1,2,3 according to these aspects: 1. theory & math. model of processes of hydrocarbon fermentation processes 2. Characteristics of computer controlled fermentation system	KICT Inst. of Bio eng. Inst. of Protein Synthesis	U. of Penn. MIT KSU New Brunswick Scientific (NSB)	1 month 1977 2nd or 3rd quarter	Conference at Inst. of Protein Synthesis; 10 participants from each country	Summary report on research result of topics 1,2,3; Proposal to design a demonstration computer controlled fermentation system.
4.2	Development and testing of math. model for hydrocarbon fermentation processes.	KICT Inst. of Bioeng.	U. of Penn. MIT KSU	1 year 1977-78	exchange of research results exchange of one sci. collaborator from each country (12 man-months)	Development of math. model for optimal design and automatic control of hydrocarbon fermentation processes.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
4.3	Devel. of Engineering techniques for optimal design of industrial scale fermentor	KICT Inst. of Bioeng. Inst. of Protein Synthesis	U. of Penn KSU MIT NBS	1 year 1978-79	Exchange of research results exchange of one sci. collaborator from each country (12 man-months equivalent)	Devel. of optimal industrial scale fermentor for production of single-cell proteins from hydrocarbons
4.4	Devel. of automatic computer control techniques for industrial scale fermentation processes	KICT Inst. of Bio eng.	U. of Penn MIT KSU NBS	1 year 1978-79	Exchange of research results exchange of one sci. collaborator from each country (12 man-months equivalent)	Software specific for computer control of fermentation processes
5.	Design, construction and demonstration of a fermentation process computer control system for producing Single-Cell Protein from Hydrocarbons					
5.1	Conference to coordinate project work	KICT Inst. of Bioeng. Inst. of Protein Synthesis	U. of Penn. MIT KSU NBS	2 weeks 1978 2nd or 3rd quarter	Conference at New Brunswick Scientific	Finalization of design proposal including specification of equipment

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
5.2	Design, production and installation of computer controlled Fermentor	KICT Inst. of Bioeng. Inst. of Protein Synthesis	New Brunswick Scientific MIT U. of Penn. KSU	2 years 1978-80	Exchange of visits for consultations on design and construction of apparatus 8 one week consulting visit	Optimally designed fermentor with computer control
5.3	Demonstration in USSR of computer controlled process for producing single-cell protein	KICT Inst. of Bioeng. Inst. of Protein Synthesis	New Brunswick Scientific U. of Penn. MIT KSU	3 months Summer, 1980	Summary conference with the ten leading developers from each side	Optimal process for producing single-cell protein from hydrocarbons
6.	Joint Writing and Publishing of Book on Computer Simulation, Design and Control of Fermentation Systems					
6.1	Meeting to discuss plans and outline joint book	Yenikeyev KICT	Humphrey U. of Penn.	1975, during meeting on topic 1.1	Agreement on outline and participants	Book outline and contents plus writing assignments

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6	7
6.2	Writing of separate chapters	authors	authors	3 years 1975-78	Exchange of chapters and critical analysis	Manuscript of book
6.3	Editing and publishing of book	Yenikeyev KICT	Humphrey U. of Penn. MIT Press	1 year 1978-79	Editing book in Russian and English	Joint publication of book

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

WORKING PROGRAM

of cooperation on the project No. 3 "Molecular biology of industrial microorganisms"

Coordinators: S.I. Alikhanian (USSR), H. Halvorson and W. Brown (USA)

nts	Main topics and steps of their development	Participants USSR	USA	Dates	Forms of cooperation	Expected results
1	2	3		4	5	6
1	Development of genetic methods for improving industrial microorganisms based on approaches of molecular genetics using microorganisms producing enzymes antibiotics and other substances			1975-78		
	1.1. Conference on new methods of selection of industrial microorganisms	Inst. Genetics of Microorganisms	Brandeis U.	1975 5 days	Conference in USA 10 persons (USSR) 10 persons (USA)	Exchange of information and design of research projects
	1.2. Conference on genetic engineering	Inst. of Genetics of Microorganisms Inst. Biochem. and Physiology of Microorganisms organisms, USSR Acad. of Sciences	Stanford U.	1976 4 days	Conference in USA 5 persons (USSR)	Exchange of information and design of research projects
	1.3. Using the methods of genetic engineering and molecular biology for development of strains of industrial microorganisms	(Inst. Genetics of Microorganisms, (Inst. Biochem. and Physiology of Microorganisms USSR Acad. of Sciences	Brandeis U. Stanford U.	1976-78	Exchange of information and strains Joint Research projects	Development of new methods of selection of micro-organisms

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
				1976 - 1 person up to 6 months 1977 - 2 persons for up to 6 months	
1.4.	Joint development of methods for increasing the activity of enzyme producers, - on the model of microorganisms decomposing cellulose	Inst.genetics of micro-organisms	Natick Lab., Mass.	1975-1977	Exchange of information and strains. Holding joint workshop: 1) Workshop in USSR, 1976 5 days, 5 persons (USA); 2) Workshop - in USA, 1977, 5 days, 5 persons (USSR) Scientist exchange: 1976 - 1 person up to 6 months 1977 - 1 person up to 6 months	Increase productivity of cellulase producers

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
2.	Development of methods of genetic analysis of microorganisms used for control of injurious insects		1975-78		
2.1	Symposium genetics and physiology of entomopathogenic microorganisms*	Inst. Genetics of Microorganisms	Northern Lab., Peoria; Michigan U.; Wisconsin U.	1975	Workshop in USSR 5 days; USA (5 persons)	Exchange of information, development of research program
2.2	Joint genetic research of toxin production, sporulation and virus production in bacilli	Inst. genetics of Microorganisms	Northern Regional Lab., Peoria Brandeis U.	1976-1978	1) Workshop in USA, 1976, 5 days; USSR (5 persons) 2) Workshop in USSR; 1977, 5 days; USA (5 persons) Exchange of scientists: 1976 - 2 persons up to 6 months 1977 - 2 persons up to 6 months	Increasing productivity of strains in toxin production Development of methods of genetic analysis of bacilli using viruses

*To be held in conjunction with 3.1.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
3. Development of genetic methods to improve industrial strains of microorganisms, including utilization of hydrocarbons, methanol and other raw material resources			1975-1978		
3.1. Conference on mutagenesis	Leningrad Univ.	Univ.of Calif. Berkeley	1975	Conference in USSR - 5 days USA (5 persons)	Exchange of information
3.2. Study of genetic systems of controlling different substrates assimilation by yeasts	Inst.genetics of microorganisms Leningrad Univ.	Univ.of Calif. Berkeley U. of Washington, Seattle NSF grantees	1975-1978	Exchange of information and strains, performing joint research projects, and holding joint workshops 1) Workshop in USA, 1976, 5 days; 5 persons (USSR)	Improvement of technological properties of strains

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
				2)Workshop in USSR, 1977, 5 days; 5 persons (USA) Exchange of scientists: 1975-77 1 person up to 6 months a year (3 persons in all)	
3.3	Improvements of methods of genetic analysis in fungi	Leningrad Univ. Inst Genetics of Microorganisms	Univ.Calif., Berkeley U.of Washington, Seattle NSF grantees	1975-78	Exchange of information and strains, performing joint research projects, and holding joint workshops 1) Workshop in USA, 1977, 5 days, 5 persons (USSR) Exchange of scientists: 1 person up to 6 months a year (2 persons in all)	Development of improved methods of selection of industrial strains

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
4.	Development of methods of genetic analysis of microorganisms - producers of amino acids and different metabolites				
4.1	Joint development of genetic methods of developing strains - producers of amino acids	Inst. Genetics of Microorganisms	U.of Rochester U.of Chicago MIT NSF grantees	1975-1977	Exchange of information and strains, performing joint research projects, and holding joint workshops 1) Workshop in USSR, 1976, 5 days, USA (5 persons) Scientist exchange: 1976 1 person up to 6 months 1977 1 person up to 6 months	Development of new methods genetic alteration o. strains producing different metabolites
4.2	Holding a conference on results of fulfillment of the cooperative program	Inst Genetics of Microorganisms	Brandeis U.	1979	Conference in USA or USSR	Publication of a book on conference results

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

Molecular Biology

Summary of Conferences

Year	Subject	Host	Number of Visitors US	Number of Visitors USSR
1975	1.1 general	USA		10
	2.1	USSR	5	
	3.1	USSR	5	
1976	1.2	International meeting in USA	5	5
	1.4	USSR	5	
	2.2	USA		5
	3.2	USA		5
	4.1	USSR	5	
1977	1.4	USA		5
	2.3	USSR	5	
	3.2	USSR	5	
	3.3	USA		5

Molecular Biology

Summary of Exchange of Scientists

Points of the Various Programs	1975	1976	1977
1.3	--	1 (6 mos)	2 (6 mos.)
1.4	--	1 (6 mos.)	1 (6 mos.)
2.2	--	2 (6 mos.)	2 (6 mos.)
3.2	1 (6 mos.)	1 (6 mos.)	1 (6 mos.)
3.3	--	1 (6 mos.)	1 (6 mos.)
4.1	--	1 (6 mos.)	1 (6 mos.)
Totals	1	7	8

WORKING PROGRAM

Project 4: "Development of Ways to Produce and Apply Enzymes for Industrial and Analytical Goals"

for 1974-80

Coordinators: I. Berezin, K. Kalunyant (USSR), G. T. Tsao (USA)

1	2	3	4	5	6
Search and isolation of productive strains of microorganisms producing enzyme systems, including systems categorized by hydrolysis of glycoside bonds, oxidation of hydrocarbons; study of conditions instrumental to biosynthesis of maximally possible quantities of enzymes	Inst. of Biotech., Moscow St. Univ.	NSF Grantees	1974-80	Joint research program; exchange of strains and information; dev. of united ways of testing; joint symposia within the program	Finding highl productive strains of microorganism & devel of technology of their cultivation
.1 Selections of enzyme producing microorganisms	Inst. of Biotech. Moscow St. Univ.	NSF Grantees	1974-80	Exchange of strains & their analysis	Finding highl productive strains of microorganism
.2 Study of microbial physiology, assortment of culture mediums; devel. of optimal conditions for their cultivation, guaranteeing improvement in biosynthetic activity	Inst. of Biotech. Moscow St. Univ.	NSF Grantees	1974-80	Joint research program; exchange of information; joint symposia within program	Devel. of techniques of cultivation guaranteeing maximum biosynthesis of enzymes
. Development of methods for large-scale preparation, separation, and purification of necessary enzymes, including systems categorized by hydrolysis of glycoside bonds and oxidation of hydrocarbons	Inst. of Biotech. Moscow St. Univ.	NSF Grantees	1974-80	Joint research program; exchange of information & documentation; joint consultations within program	Devel. of effective processes & equipment for processing separating purifying enzymes on large scale

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
2.1 Determination of optimal conditions for separation of enzymes	Inst. of Biotech., Moscow St. Univ.	NSF Grantees	1974-80	Same as 2	Finding optimal conditions for separating enzymes
2.2 Development of technical process for separation of enzymes	Same as above	Same as above	1974-80	Same as 2	Devel. of technology for separating enzymes
2.3 Development of technical process for purification of enzymes	Same as above	Same as above	1974-80	Same as 2	Devel. of technology for purifying enzymes
2.4 Development of methods for stabilization of enzymes	Inst. of Biotech.	Same as above	1974-80	Same as 2	Recommendations ways for stabilizing enzymes
.5 Design of industrial equipment	Inst. of Biotech.	Same as above	1974-80	Same as 2	Devel. of industrial equipment for separating and purifying enzymes
Development of methods for obtaining technological production of immobilized and stabilized enzymes; research on properties of immobilized enzymes	Inst. of Biotech Moscow St. Univ.; TPI; Acad. of Sci, USSR	Same as above	1974-80	Joint research program; exchange of information & preparations; joint execution of research & consultations, symposia	Devel. of new ways of enzyme immobilization and industrial processes of their production; creation of theoretical basis of activity of immobilized enzymes
.1 Choice of carriers & methods for enzymes immobilization	Inst. of Biotech; Moscow St. U.; TPI, Acad. of Sci. USSR	Same as above	1974-80	Same as 3	Choice of optimal carriers & methods of immobilization

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
3.2 Development of methods for immobilization of multienzymes and/or cofactor systems	Inst. of Biotech; Moscow St. U.; TPI; Acad. of Sci.,USSR	NSF Grantees	1974-80	Same as 3	Devel. methods of immobilization of multi enzymes and/or cofactor systems
3.3 Development of theoretical & experimental processes catalyzed by immobilized enzymes	Inst. of Biotech; Moscow St. U.; TPI; Acad. of Sci. USSR	Same as above	1974-80	Same as 3	Creation of theoretic & experimental processes catalyzed by immobilized enzymes
3.4 Development of technological processes & equipment for production of immobilized enzymes	Inst. of Biotech; TPI	Same as above	1974-80	Same as 3	Creation of technolog & apparatus for producing immobilized enzymes
3.5 Stabilization of soluble enzymes	Moscow St.U.	Same as above	1974-80	Same as 3	Obtain stable enzymes for treatment of insoluble substrates
4. Diagnostic & Analytical Uses of enzymes; including immobilized enzymes	Moscow St. U.	Same as above	1974-80	Joint research program; exchange of information. Joint consultations within program	Devel. new diagnostic & analytical methods
4.1 Enzyme-immuno analysis	Moscow St. U.	Same as above	1974-80	Same as above	Creation of methods for enzyme-immunity analysis
4.2 Development of enzyme methods for detecting faint light or sound	Moscow St. U.	U. of Penn.	1974-80	Same as above	Creation of light & sound sensitive materials

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

1	2	3	4	5	6
.3 Development of enzyme electrodes & methods for analytical applications	Moscow St. U.	NSF Grantees	1974-80	Same as 4	Creation of enzyme electrodes & analytica methods of their use
reation of scientific bases; evel. of tech. processes & quipment for enzymatic transformation of substances	Inst. of Biotech. Moscow St. U.	Same as above	1974-80	Joint research program & exchange of information, documentation & preparations; joint consultations & symposia within the program	Devel. of new tech processes & equipment for obtaining enzymes; their use in agriculture
1 Production of sugar from cellulose	Same as above	U. of Calif-Berkeley	1974-80	Same as above	Creation of enzyme catalysts; devel of tech. & equipment for obtaining sugar from cellulose
2 Production of fermentable sugars from starch & agricultural wastes	Inst. of Biotech.	NSF Grantees	1974-80	Same as above	Creation of enzyme catalysts; devel of tech. & equipment
3. Enzyme production of milk substitutes	Same as above	Same as above	1974-80	Same as above	Creation of enzyme catalysts; devel of tech. & equipment
Production of amino acids by enzymatic cleavage of protein waste products	Inst. of Biotech. Moscow St. U., Acad. of Sci., USSR	Same as above	1974-80	Same as above	Creation of enzyme catalysts; devel. of tech. & equipment

Approved For Release 2001/08/27 : CIA-RDP79-00798A004400100008-5

1	2	3	4	5	6	7
5.5	Obtaining oxygen-containing products by enzyme oxidation of hydrocarbons	Inst. of Biotech.; Moscow St. U.	NSF Grantees	1974-80	Same as 5	Creation of enzym catalysts; scient fic basis for technology
6.	Establishment of joint workshops Symposia, and working conferences	Scientists from USSR and USA	Scientists from USA and USSR	1974-80	Same as 5	Discussion & eval ation of results & plans
6.1	Working conference on Project 4	same as above	Same as above	Sept. 1974	Working Conference	Discussion of pre ent status of research on Project 4
6.2	Workshops in USA on Points # 1 and 5.2	7 people	7 people	1975 10 days	Exchange of information	Evaluation of re-sults & discussio of plans
	On points # 3.2 & 4	7 people	7 people	1977 10 days	Same as above	Same as above
	On points # 2.5, 3, 4, 5	7 people	7 people	1979 10 days	same as above	Same as above
6.3	Workshops in USSR on points # 2 & 5.2	7 people	7 people	1976 10 days	Exchange of information	Evaluation of re-sults & discussio of plans
	On points # 5.1, 5.3, 5.5	7 people	7 people	1978 10 days	Same as bove	
	Concluding workshop on Project 4	7 people	7 people	1980 10 days	Same as above	Same as above

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-6

1	2	3	4	5	6	7
6.4	Exchange of Scientists for research on the program	2 people	2 people	1975 6 months	Joint research	Obtaining of scientific resul
		2 people	2 people	1976 6 months	Same	Same
		4 people	4 people	1977 6 months	Same	Same
		4 people	4 people	1978 6 months	Same	Same
		4 people	4 people	1979 6 months	Same	Same
		4 people	4 people	1980 6 months	Same	Same
6.5	Participation in 6 international & national conferences & workshops in US and USSR on program project	4 people to each conference	4 people to each conference	1975-80	Exchange of information	Exchange of infor tion

By agreement of the cochairmen, the topics and agenda on point 6 can be changed.

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

WORKING PROGRAM

MICROBIOLOGICAL CONTROL OF PESTS IN AGRICULTURE

Coordinators: O. Alioshina (USSR) and A. Heimpel (USA)

No.	Name of Topic and divisions	Participants USSR	Participants USA	Duration of Task	Forms of Cooperation	Expec Res
1	2	3	4	5	6	7
	Sporulation of Milky Disease Bacteria			1975-78		
I	Exchange of publications and bacterial cultures	Nat'l Acad. of Sc., Inst. of Microbiology Armenia, SSR	Cornell Experimental Station; Agricultural Station, Beltsville, Md.	1975	Exchange of information	Establism of virulent strains fo further wo
I.2	Development of research plans and visit to laboratories	same as above	same as above	1975 (3 days working mtg, 7 days visit)	Mtg in USA; 6 participants from ea. country	Exchange o information
I.3	Isolation of diseased insects, bacteria, and research on bacterial sporulation	same as above	same as above	1975-78	Cooperative research and exchange info.	To obtain sporulat bacteria
I.4	Discussion of results obtained	same as above	same as above	1976 (3 days, 7 days visit)	Mtg in USSR 6 US 6 USSR	Plan futu program
I.5	Development and preparation of final report	same as above	same as above	Spring 1978 (5 days)	Mtg in US 6 US 6 URRS	Prepare Final repo

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400010008-5

WORKING PROGRAM

ENGINEERING RESEARCH AND DEVELOPMENT OF EQUIPMENT FOR THE COMPUTERIZED SIMULATION, DESIGN AND CONTROL OF PROCESSES FOR MICROBIAL TECHNOLOGY

Coordinators: O. Alioshina (USSR) and A. Heimpel (USA)

No.	Name of topic and divisions	Participants		Duration of task	Forms of Cooperation	Expected Results
		USSR	USA			
1	2	3	4	5	6	7
2.0	Production of viruses					
2.1	Exchange of cell lines and publications. Visit laboratories	Inst. of Molecular Genetics Inst. of Bacterial Preparations	Ohio State Univ.; Agricultural Beltsville,Md.	1975 10 days	Meeting in USSR; 6 participants from each country (including visit to laboratories)	Exchange of informati
2.3	Research on problems and visit to laboratories	same as above	same as above	1975-76 10 days	Joint meeting in USA in 1976, (6 participants from each country)	Development of methods for obtaining & preserving viruses
2.4	Report summary			1977	5 days Meeting in US 10 persons from each country-discussion of report	Recommendation for report summary
3.0	Development of a single standardization System and evaluation of Bacterial and Virulent Qualities of Entomopathogenic Preparations	Inst. of Bacterial Preparations				
3.1	Research program	Inst. of Microbiology Nat'l. Acad. of Sciences, Armenia, SSR	Participating institutions will be submitted later	1975-78 (5 days)	Symposium on methods of standardization USSR-1976, 10 participants from USSR & 10 from USA	Discussion on Standardization of methods; selection of optima methods

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

WORKING PROGRAM

ENGINEERING RESEARCH AND DEVELOPMENT OF EQUIPMENT FOR THE COMPUTERIZED SIMULATION, DESIGN AND CONTROL OF PROCESSES FOR MICROBIAL TECHNOLOGY

Coordinators: O. Alioshina (USSR) and A. Heimpel (USA)

No.	Name of topic and divisions	Participants		Duration of task	Forms of Cooperation	Expected Results
		USSR	USA			
1	2	3	4	5	6	7
3.2	Execution of research	Inst. of Bacteriological Preparations Inst. of Microbiology, Armenia, SSR Acad. of Sci., USSR	Participating institutions will be submitted later in 1974	1975-78	Exchange of information as a result of research	Joint publication of research results, recommendations of standardized methods of analysis
3.3	Joint verification of recommended methods	Same	Same	1978 (5 days)	Meeting in USSR to execute joint verification of recommended methods (6 people from each country)	Instruction on the use of standardized method

Approved For Release 2001/08/27 : CIA-RDP79-00798A000400100008-5

Exchange of junior-level research personnel. Junior-level research personnel actively engaged in one of the research tasks officially accepted by the Joint Working Group will visit laboratories in the other country for the purpose of doing joint research, demonstrating methods, learning special techniques and comparing results. The length of visits of such research personnel may be for periods of up to ten months. The principle of receiving side pays will apply here. Personnel will be selected by the sending side country with the concurrence of the receiving side.

Exchange of Senior Research Personnel. Task leaders and senior scientists on projects covered by the agreement will be accepted in one or more laboratories for appropriate periods. Such visits will be on a receiving side pays basis. The visits will consist of either joint research visits and planning, lectures, conferences, or combinations of these. In addition, senior research personnel with extensive knowledge in the official research areas may visit the other country on the same basis as the principal investigators. Such individuals will be considered when they have special expertise and where their advice to either the sending or the receiving side (or both) would be beneficial to the program.

Conferences. Conferences will be held from time to time on various approved research topics. The location of the conferences in each project area will alternate, insofar as possible, between the two countries. The principle of receiving side pays will apply here. Individuals to attend will be chosen by the sending country with the concurrence of the host country. The number of participants will approximate that specified by the research working plan.

Annual research reports. Each project coordinator will be responsible for submitting to his counterpart project coordinator in the month of July, through the Working Group Co-chairmen, annual summary reports of research, completed and in progress, including references to personnel and laboratories involved. These reports will contain sufficient details to allow publication of the research results. The publication of this research information will be made in accordance with the guidelines established by the US/USSR Joint Commission. If available, information in addition to that referred to in the reports and involving research done under the joint agreement, will be made available to either side upon request through the Working Group Co-chairmen.

Joint Meetings of Project Coordinators

Each project coordinator(s) and his counterpart(s) will maintain communication with each other and will meet for discussion concerning results of the various tasks, planning of further research and holding of conferences. They will also evaluate the effectiveness of the exchange of information and make recommendations to their respective chairmen for any necessary changes, both in the information exchange and in the research tasks being studied. Visits to laboratories of each side will be suggested and arranged for by the project coordinators with approval of the respective working group chairman. Meetings will be held alternately in each country on at least an annual basis.

Agenda

for the 4th Meeting of the US/USSR
Joint Working Group

(June 1975, Moscow, USSR)

1. Reports of the coordinators on present state and results of the research projects.

2. Discussion of recommendations from both sides and arriving at decisions on possible broadening of the topics for cooperation.

3. Determination of agenda for the 5th Meeting of the Joint Working Group.

4. Miscellaneous